Using gaming paratexts in the literacy classroom

Conference or Workshop Item

How to cite:

For guidance on citations see FAQs.

© 2012 The Authors

Version: Version of Record

Link(s) to article on publisher’s website:
http://www.etc.cmu.edu/etcpress/files/GLS8.0-proceedings-2012-web.pdf

Copyright and Moral Rights for the articles on this site are retained by the individual authors and/or other copyright owners. For more information on Open Research Online’s data policy on reuse of materials please consult the policies page.
PROCEEDINGS
GLS 8.0
GAMES + LEARNING + SOCIETY CONFERENCE

MADISON, WISCONSIN
JUNE 13- 15, 2012

Editors
Crystle Martin
Amanda Ochsner
Kurt Squire
PREFACE

This year we are pleased to be publishing the second volume of the annual proceedings for the Games+Learning+Society (GLS) Conference. For eight years now, GLS has been a valued event for individuals working in academia, industry, and as practitioners in schools to come together around their shared interest and passion for videogames and learning. This conference is one of the few destinations where the people who create high-quality digital learning media can gather to discuss and shape what is happening in the field and how the field can serve the public interest. GLS offers an opportunity for in-depth conversation and social networking across diverse disciplines including game studies, education research, learning sciences, industry, government, educational practice, media design, and business.

The GLS conference offers a variety of session types, ranging from traditional academic presentations and symposia to hands-on workshops and informal Fireside Chats with leading individuals in the field. The first day of the conference offered educators a unique opportunity to participate in workshops relating to various topics around games and learning in the GLS Educators Symposium, directed by Remi Holden. Keynote speakers this year included Colleen Macklin, Reed Stevens, and Sebastian Deterding. This year we hosted several Well Played sessions, offering a unique “close reading” of games ranging from The Elder Scrolls: Skyrim to Super Meat Boy. Introduced by Drew Davidson of Carnegie Mellon University, these analyses enable an opportunity for participants to cross publish in the Well Played journal. We also held the first Educational Game Arcade, where attendees were able to play a variety of educational game titles and talk with the developers. This year the conference also hosted the second Games and Art Exhibition titled Pen and Sword, curated by GLS artist in residence Arnold Martin. In addition to formal presentations the arcade held lively sessions of games such as Johann Sebastian Joust, a social game played with PlayStation Move controllers, as well as the very popular (and sometimes shocking) Cards Against Humanity. The informal social and play sessions throughout the conference offer as much opportunity for debate, discussion, and the incubation of new ideas as the more formal sessions and presentations.

We would like to give a big thank you to our conference sponsors this year, including Microsoft Research, Pearson, Filament Games, Mediasite by Sonic Foundry, the Wisconsin Department of Public Instruction, and Game Crafter. We would also like to thank all of the presenters and attendees who make the conference as fantastic as it always is and the volunteers who enable it all to happen. Our last thank you goes to Drew Davidson and ETC Press for publishing the proceedings for us. We are already hard at work on next year’s conference, looking to make it as inspiring and wonderful as ever.

The GLS Proceedings Editors,
Crystle Martin, Amanda Ochsner and Kurt Squire
The Conference Crew…

GLS Executive Committee
Kurt Squire, Chair, University of Wisconsin-Madison
Crystle Martin, Co-Chair, University of Wisconsin-Madison
Drew Davidson, Well Played Session Curator, Carnegie Mellon University
James Paul Gee, Arizona State University
Eric Klopfer, Massachusetts Institute of Technology
Eric Zimmerman, Independent Game Designer

GLS Conference Committee
Meagan Rothschild - Day Captain & Registration Liaison
Caro Williams - Day Captain & Volunteer Coordinator
Amanda Ochsner - Day Captain & Proceedings Chair
Ryan Martinez - Facilities Captain
Sarah Chu - Art Director & Print Program Designer
Dennis Ramirez - Web & Mobile Developer
Arnold Martin - GLS Games and Art Exhibition Curator
Remi Holden - GLSES Chair
Gabriella Anton - Poster Session Chair
Jonathan Elmegreen - Community Manager

GLS Board of Advisors
Sasha Barab, Arizona State University
John Seely Brown, Chief of Confusion
Doug Clark, Vanderbilt University
Michael Connors, University of Wisconsin-Madison
Alice Daer, Arizona State University
Greg Downey, University of Wisconsin-Madison
Erica Halverson, University of Wisconsin-Madison
Rich Halverson, University of Wisconsin-Madison
Betty Hayes, Arizona State University
Robin Hunicke, Tiny Speck
Henry Jenkins, University of Southern California
Yasmin Kafai, University of Pennsylvania
Paul A. Kirschner, Open Universiteit Nederland
Eva Lam, Northwestern University
Elizabeth Lane Lawley, Rochester Institute of Technology
Thomas Malaby, University of Wisconsin-Milwaukee
Jeremiah McCall, Cincinnati Country Day School
Dan Norton, Filament Games
Brian Raffel, Raven Software
Erin Robinson, Ivy Games
Katie Salen, DePaul University
Doug Thomas, University of Southern California
We want to give a thank you and 1UP to all of the generous individuals who helped us put this year’s conference together.

**GLSES Committee**
Breanne Litts, Gerardo Mancilla, Golnaz Arastoopour, Luke Kane, Regina Figueiredo-Brown, Torrey Kulow, Wade Berger

**Additional GLSES Volunteers**

**Main Conference Volunteers**
Al Barnicle, Alexis Gill, Andrew Schultz, Barbara Z. Johnson, Breanne Litts, Brittany Smith, Dan Kursevski, David Hatfield, Elizabeth Harris, Ellen Jameson, Gabriel Recchia, Gerardo "Lalo" Mancilla, Jacob Hanshaw, Jason Mathias, Jenny Saucerman, Jeremy Dietmeier, Jonathan Elmergreen, Jordan Anderson, Jordan T. Thevenow-Harrison, Julie Collins, Kane Beaber, Katie Seeger, Keari Bell-Gawne, Kevin Alford, Luke Kane, Marshall Behringer, Nate Wills, Nick Pjevach, Paul Harris, Rex Beaber, Sean McMullin, Sean Seyler, Seann Dikkers, Shannon Harris, Sheng-peng Wu, Mark Reichers, Suzanne Rhodes, Tolga Yenilmez

And…Shree Durga as Sonic Foundry Liaison, with assistance from Shankara Subramanian (Software Development Lead) and Sam Bottoni (Software Engineer)

Moses Wolfenstein as the Hokey-Pokey Guru for the “Put Your Right Foot In” session
LONG PAPERS

FIRESIDE CHATS

Let’s Talk About Intelligent Tutoring Systems and Games for Learning ....5
Andre Denham

Just Press Play: Design Implications for Gamifying the Undergraduate Experience ....9
Ryan Martinez, Crystle Martin, Shannon Harris, Kurt Squire, Elizabeth Lawley, Andrew Phelps

Designing a Game Based Approach to Tobacco Abstinence ....15
Bert Snow, Jamie Ostroff, Jack Burkhalter, Paul Krebs

HALL OF FAILURE

When Simple Is Not Best: Issues that Arose Using Why Reef in the Conservation Connection Digital Learning Program ....25
Audrey Aronowsky, Beth Sanzenbacher, Johanna Thompson, Krystal Villanosa, and Joshua Drew

The Canary’s Not Dead, It’s Just Resting: The Productive Failure of a Science-Based Augmented-Reality Game ....31
Elisabeth Sylvan, James Larsen, Jodi Asbell-Clarke, & Teon Edwards

PAPERS

In Torpor, Not Dead: A Look at a Collectible Card Game ....41
Sonam Adinolf, Selen Turkay, Devayani Tirthali

Establishing a New Framework to Measure Challenge, Control and Goals in Different Game Genres ....49
Ali Alkhafari, Brian Grey, Peter Hastings

Do Girls and Boys Come From Different Planets? ....55
Kannan AMR

Games of Bones: Design Decisions and Early Feedback from a ....63
Kenneth Angielczyk, Audrey Aronowsky, Beth Sanzenbacher, Johanna Thompson, Krystal Villanosa

Commercial Video Games as Preparation for Future Learning ....69
Dylan Arena

“Oops, I Learned Something”: Teaching Via Game Mechanics ....75
Bryan Cash, Francisco Souki

Gaming the System: Manifesting Affinity and Resistance Through the Visual Play ....83
Ben DeVane, Joyce Tsai

Triangulating Learning in Board Games: Computational Thinking at Multiple Scales of Analysis ....91
Sean C. Duncan, Matthew Berland

A Framework for Conducting Research and Designing Games to Promote Problem Solving ....97
Richard Van Eck, Woei Hung

Beyond Collaboration and Competition: Independent Player Goals in Serious Games ....105
Thomas Fennnewald, Brent Kievit-Kyler

Gaming the Class: Using a Game-based Grading System to Get Students to Work Harder... and Like It ....111
Barry J. Fishman, Stephen Aguilar

A Systematic Review on the Potential of Motion-Based Gaming for Learning ....119
Salvador Garcia-Martinez, Carolyn Jong

“Can I wait go to the hospital until after Math class?” ....127
Jeramy Gatza, Scott Laidlaw

The Role of Quantitative Assessment in Just Press Play: A Pervasive Game Addressing College Retention Issues and the Overall College Experience 133
Shannon Harris, Ryan Martinez, Crystle Martin, Andrew Phelps, Elizabeth Lawley, Kurt Squire

Hunting for Identity: Community, Performance, and the Curious Case of the “Huntard” in World of Warcraft ....137
Jeff Holmes

Seeing Action: A Visual Analysis of World of Warcraft ....145
Jason Underwood, Wei-Chen Hung, Aline Click, Eric Russell,

MathMaker: Teaching Math through Game Design and Development .............................. 313
Lucien Vattel, Michelle Riconscente,

Using Gaming Paratexts in the Literacy Classroom .................................................. 323
Christopher S. Walsh, Thomas Apperley

Jerked Around by the Magic Circle— ................................................................. 331
Eric Zimmerman

SYMPOSIA ............................................................................................................. 339

Formal Game-Based Assessments: The challenge and opportunity of building next generation assessments .......................................................... 341
Jody Clarke-Midura, Jennifer Groff

Using Working Examples to Bridge Research and Practice with Digital Media and Learning .............................................................. 349
Danielle Herro, Beth King

EDemocratized: A Democratization of Educational Assessment ............................... 355
Yoon Jeon Kim, Peter Wardrip, Benjamin Stokes, Adam Ingram-Goble, R. Benjamin Shapiro, Russell Almond, James Paul Gee

Translating “Games and Learning” For Non-Expert Audiences: Opportunities and Challenges .......................................................... 363
Michael Levine, Joan Ganz Cooney Alex Games, Seann Dikkers, Shira Lee Katz

WELL PLAYED ......................................................................................................... 367

Super Meat Boy .................................................................................. 369
Matthew Thomas Payne, Stephen Campbell

Chopper versus Chopper .............................................................................. 375
Matthew Thomas Payne, Michael Fleisch

Well Suffered .............................................................................................. 381
Moses Wolfenstein

WORKED EXAMPLES .......................................................................................... 389

“Critical Interactives”: On the Origins of a Concept ............................................. 391
Duncan Buell and Heidi Rae Cooley

Designed Controversies: Creating teachable moments about research ethics through games ........................................................................ 397
Ben DeVane, Margeaux Johnson, Michelle Foss-Leonard, Amy Buhler

Worked Example: Cosmos ............................................................................... 405
Jason Haas, Eric Klopfer, Scot Osterweil, Louisa Rosenheck

Game Design in a Traditional High School: A Worked Example ........................... 411
Danielle Herro

The Roles of Badges in the Computer Science Student Network ............................. 417
Ross Higashi, Sam Abramovich, Robin Shoop, Christian Schunn

Game-based Research Collaboration adapted to Science Education .................... 425
Rikke Magnussen, Sidse Damgaard Hansen, Kaj Gronbaek, Klaus Molmer, Jacob Friis Sherson

Pathfinder: Developing prototypes towards an engaging game to reduce implicit bias ...................................................................................... 431
Dennis Ramirez, Sarah Chu, Clem Samson-Samuel, Belinda Gutierrez, Molly Carnes

Operation ΜΗΝΙΣ: Mapping learning objectives to play objectives ...................... 439
Roger Travis, Stephen Slota, and Kevin Ballestrini

Reality Ends Here Design Brief: An Environmental Game for Media Arts Students .......................................................... 445
Jeff Watson

WORKSHOPS ......................................................................................................... 453

Using Interactive Metaphors and Popular Game Designs for Science Education .............................. 455
James Bachhuber, John Parris, Tobi Saulnier

WORKSHOP I Made That: Game Design Across the Curriculum .......................... 461
Alex Chisholm, Kate Cotter

Studio K: A Game Design Curriculum for Computational Thinking ...................... 463
Luke Kane, Wade Berger, Gabriella Anton, R Benjamin Shapiro, Kurt Squire
Newton’s Playground: How to use evidence centered design (ECD) to develop game-based assessment ................................................................. 467
Yoon Jeon Kim, Matthew Ventura, Valerie J. Shute, Russell Almond
Evaluating STEM Games For Young Audiences: A Hands-On Workshop 473
Meagan Rothschild, Carla Engelbrecht Fisher, Dixie Ching
The Metagame as Teaching Game ............................................................... 479
Colleen Macklin, John Sharp, Alice Daer, Sean Duncan, Andrew Nealen

SHORTPAPERS .................................................................................. 485
EDUCATIONAL GAME ARCADE .......................................................... 487
Leo’s Pad .......................................................................................... 489
Dylan Arena, PJ Gunsagar, Fred Sharples
Meet the Earthworks Builders Video Game.............................................. 491
Michelle Aubrecht, Tyler Ayres, Peter Gerstmann, Dan Norton
IPRO: A mobile, social programming game for iOS ................................. 493
Matthew Berland, Taylor Martin, Tom Benton, Carmen Petrick Smith
School Scene Investigators: Evaluating Engagement during a Forensic Science Mystery Game ................................................................. 495
Denise Bressler
The Battle for Dondervoort: Using the powers of pervasive games and play communities in education ...................................................... 497
Dr Marinka Copier, Drs Hanne Markmann, Drs Jennemie Stoelhorst
Visual Literacies: From Print to Screen ..................................................... 499
Stefka Hristova
Tug-of-War 2.0: A Digital Card Game ..................................................... 501
Osvaldo Jiménez, Dylan Arena, Ugochi Acholonu
Quandary: Building Capability in Ethical Decision Making ..................... 503
Scot Osterweil, Marina Bers
Atlantis Remixed: Advancing Research into Sustainable Designs .......... 505
Brenden Sewell, Sasha Barab
Past Present: A 3D Role Playing Game to Teach Social History ............. 507
Bert Snow, Louis Alvarez, Andrew Kolker, Peter Odabashian
Exploring a Studio Critique Model for STEM Evaluation ...................... 509
Cary Staples, Susan Riechert, Vittorio Marone, Katherine Greenberg

MICROPRESENTATIONS ................................................................. 511
Becoming an Expert Boardgamer: A Quantitative Exploration ............... 513
Matthew Berland
Game Design and Computer Programming in the General Education Classroom ......................................................................................... 515
James Brown, Eric Alexander
“How Does The Story End?”:
The Role of Unfinished Games in Supporting Kids’ Learning .................. 517
Bob Coulter
Art Games: Creating Video Games Within an Art Curriculum .............. 519
Ryan Patton
Epic Fail: Why is it ok to fail in videogames? ........................................... 523
Dennis Paiz-Ramirez
Gameful Learning and Global Social Problems ...................................... 525
Jason Rosenblum
Sometimes Paper IS Better:
The Case of The Field Museum’s Biodiversity Scavenger Hunt ............. 527
Audrey Aronowsky, Beth Sanzenbacher, Krystal Villanosa
Designer Control and the Role of Space in Augmented Reality Games for Learning .................................................................................. 531
Tammer Vea
A Tool for Supporting Game Design Education: Tower Defense Generator ................................................................. 533
José P. Zagal, Pitchatarn Lertudomtana

POSTERS .......................................................................................... 535
Video Game Workshop as a Sharing Device in Mental Health Care         537
Carlos Baum, Cleci Maraschin

Moving From Content to Discovery: STEM for Younger Learners         539
Meagan K. Rothschild, Carla Engelbrecht Fisher, Dixie Ching

Exploring Coherence in Student Game-Based Learning Narratives         541
Julia Collins

Leveraging English Learners' Identities in Game Design               545
Don Davis, Matthew Berland

Gaming and Programming Affinities in Modding Communities             549
Shree Durga

“Are We Having Fun Yet?”: Evaluation, Player Retention, and Lessons Learned from Vanished, the MIT-Smithsonian Science Mystery Game    551
Caitlin Feeley Ed.M., Scot Osterweil, Jessica Simon

Enhancing Introductory Programming with Kodu Game Lab in a High School classroom                                                  555
Allan Fowler

The High School Game: An Intergenerational Board Game for Discussing Secondary School Stresses                           559
Lindsay Grace, Robert Smaida, Drew Ritcher, Mohammed Al-Mulla

“H*i5: Unblocking the barriers to learning games in education         561
Jennifer S. Groff

The Lit2Quit Mobile App: Evoking Game-based Physiological Effects that Mimic Smoking                                    565
Azadeh Jamalian, Jessica Mezei, Pazit Levitan, Adrienne Garber, Jessica Hammer, Charles Kinzer

Student Perceptions: A Game-Based Achievement System in an Online Undergraduate Course                                  569
Emily Johnson, Rudy McDaniel, Jon Friskics, Robb Lindgren

This is Not a Game: Alternate Reality Games as a First Year Composition Course Structure                                  573
Jay Johnson

Summer Game Camp: Modding a SMALLab Systems-Thinking Game           577
Tatyana Kozitupa

Why do Players Keep Playing? A Formative Analysis of the Motivational Qualities of Video Games and their Relation to Critical Success     581
Carolyn Lauckner, John Lauckner

Game Design and Social Media in a Middle School Classroom            583
Laura Minnigerode

Playing Nice: Social and Ethical Reasoning Across In- and Out-of-Game Contexts                                        585
Amanda Ochsner, Constance Steinkuehler

Not Just for the Love of the Game: Finding Professional Quality in Game-Based Wikis                                    589
Amanda Ochsner, Crystle Martin

Moving From Content to Discovery: STEM for Younger Learners         591
Meagan K. Rothschild, Carla Engelbrecht Fisher, Dixie Ching

Emulation as archive and archival practice                           593
Chris Russell

Gaming the System: Reforming communication and legal literacy through gameplay                                         595
Lien Tran

A Conceptual Teacher-Learner Model for a Collaborative Learning with Serious Games                                      597
Amri Yusoff, Richard M. Crowder, Lester Gilbert, Gary Wills

ART EXHIBITION                                                                                                        599
PEN AND SWORD: CHARACTER AND NARRATIVE IN GAMES AND ART....601

<table>
<thead>
<tr>
<th>Title</th>
<th>Author(s)</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cherubic Intervention</td>
<td>Heather Accurso</td>
<td>602</td>
</tr>
<tr>
<td>Assembling to Kill Ragnaros</td>
<td>Mark Chen</td>
<td>603</td>
</tr>
<tr>
<td>Charming Butcher</td>
<td>Andrea Coates</td>
<td>604</td>
</tr>
<tr>
<td>Images of Magic and Space</td>
<td>Liz Danforth</td>
<td>605</td>
</tr>
<tr>
<td>One and Five</td>
<td>Josh Fishburn</td>
<td>606</td>
</tr>
<tr>
<td>12 Sided Pirate</td>
<td>Amanda Marie Gatton</td>
<td>607</td>
</tr>
<tr>
<td>Big Huggin’ an Affection Game</td>
<td>Lindsay Grace</td>
<td>608</td>
</tr>
<tr>
<td>Drive</td>
<td>Carson Grubaugh</td>
<td>609</td>
</tr>
<tr>
<td>KitschO</td>
<td>T. Scott Collier</td>
<td>610</td>
</tr>
<tr>
<td>Inhabited Space</td>
<td>Bernd Kreimeier, Chris Laurel</td>
<td>611</td>
</tr>
<tr>
<td>Cranes for Peace</td>
<td>Philip D. Noble</td>
<td>612</td>
</tr>
<tr>
<td>The Infected!</td>
<td>Brian Pelletier</td>
<td>613</td>
</tr>
<tr>
<td>Bullet Hell</td>
<td>A. J. Patrick Liszkiewicz, Anton Hand</td>
<td>614</td>
</tr>
<tr>
<td>Helm of the Yellow Admiral</td>
<td>Chris Hindle</td>
<td>615</td>
</tr>
<tr>
<td>DIHOWITZERCERATOPS</td>
<td>Arnold Martin</td>
<td>616</td>
</tr>
<tr>
<td>Writing Things We Can No Longer Read</td>
<td>Alex Meyer</td>
<td>617</td>
</tr>
<tr>
<td>Translations</td>
<td>Rachel Cohen</td>
<td>618</td>
</tr>
<tr>
<td>Possibilities v1.1</td>
<td>Nick Sousanis</td>
<td>620</td>
</tr>
</tbody>
</table>
Using Gaming Paratexts in the Literacy Classroom

Christopher S. Walsh, Open University, UK, cs.walsh@open.ac.uk
Thomas Apperley, Monash University, Australia, tom.apperley@monash.edu

Abstract: This paper illustrates how digital game paratexts may effectively be used in the high school English to meet a variety of traditional and multimodal literacy outcomes. Paratexts are texts that refer to digital gaming and game cultures, and using them in the classroom enables practitioners to focus on and valorise the considerable literacies and skills that young people develop and deploy in their engagement with digital gaming and game cultures. The effectiveness of valorizing paratexts in this manner is demonstrated through two examples of assessment by students in classes where teachers had designed curriculum and assessment activities using paratexts.

Valorizing children and young people’s ‘gaming literacy’ (Salen, 2007; 2008; Zimmerman, 2009) by including digital games is paramount in assisting practitioners in drawing upon pupils’ out-of-school literacy practices to support the acquisition of traditional and multimodal literacies. While the connection between digital gameplay and multimodal literacy is clearly established (Buckingham & Burn, 2007; Zimmerman, 2009), in this paper we argue that the digital game ‘paratext’ (Consalvo, 2007) is central to capitalizing on pupils’ out-of-school literacy practices.

In the context of digital gaming, the ‘paratext’ is an umbrella term covering ancillary media about digital games made by and for players (Consalvo, 2007: p. 8). Digital game paratexts provide practitioners and pupils with a strong conceptual link between gaming literacy and the acquisition of traditional school literacies. Digital game paratexts are easily accessible print and multimodal texts that connect gaming with curriculum-based literacy outcomes due to their relevance. Drawing on two urban case studies from a three-year project funded by the Australian Research Council we demonstrate the effectiveness of including digital game paratexts within the English curriculum (1). When pupils read, write and design digital game paratexts, teaching and learning can valorize their multiple literacies in ways that support the acquisition of traditional print-based literacy practices that are necessary for academic success.

Digital games and literacy

Current research argues that digital games motivate young people in ways that formal education does not (Amory et al., 1999; Dondlinger 2007; Facer et al., 2003; Gee 2003; 2007; Swartout & van Lent, 2003). More specifically, digital games increase players’ ability to manage ‘spatial representation’ and ‘iconic skills’ (Greenfield, 1984), visual attention (Greenfield, 1984; Greenfield et al., 1994), and problem solving (Greenfield, 1996; Prensky, 2001; Rieber, 1996; Squire, 2002). Digital gameplay also develops skills that encourage experiential and exploratory learning (Betz, 1995; Gorriz & Medina, 2000), provides players with conceptual understandings of active learning strategies (Kirriemuir & MacFarland, 2004), and fosters social engagement and the development of collaborative skills (Galarneau & Zibit, 2007; Manninen, 2002; Squire, 2003). Other relevant studies highlight the educational potential of games (Egenfeldt-Nielsen, 2004; 2007), the experience of the player during play (Ermi & Mayra, 2005; Gee, 2003; de Kort & IJsselsteijn, 2008), and learning to play in games (Pelletier & Oliver, 2006). Through playing digital games, children and young people are introduced to contingency and risk, and explore issues of identity, possibility, and subjectivity (Walsh & Apperley, 2009). Many considered the skills, knowledges, and literacies learnt through digital games crucial to education and citizenship in the 21st century (Galarneau & Zibit, 2007; Kahne, Middaugh, & Evans, 2009; Raphael et al., 2010; Zimmerman, 2009). The positive assessment of digital games is also recognized outside the realms of educational scholarship and game studies. For example in 2008, the European Parliament’s Committee on Culture and Education called on the Committee of Internal Market and Consumer Protection to incorporate the suggestion that digital games can have substantial educational advantages and be beneficial in developing intellectual capabilities and creative, linguistic, and strategic skills.

Our current understanding of gaming literacy emerges from valuable iterations of ‘game literacy’ (Facer et al., 2003; Buckingham & Burn, 2007), ‘gaming literacies’ (Salen, 2007), and the use of the term as an approach to literacy based on game design (Zimmerman, 2009). The term game literacy has been used as a means of provoking sustained discussion of how games and gaming culture can...
be studied with an emphasis on a ‘theory that addresses both the representational and ludic dimensions of games’ (Buckingham & Burn, 2007: p. 345). We are not simply interested in how digital games work, but how they support a performative and transgressive learning stance based in play, reflective of the status of games as ‘dynamic rule-based systems’ (Salen, 2007: p. 307). Gaming literacies are the key to understanding the skills required to be considered literate in the twenty-first century (Beavis et al., 2009; Zimmerman, 2009).

Gaming literacies are developed through gameplay and engagement with digital game cultures. During gameplay, children and young people draw on their gaming literacies to accomplish difficult but motivating tasks and develop new knowledge by navigating the complex, changing virtual environment. Through their engagements with digital games, players often develop sophisticated ‘gaming capital’ (Apperley, 2010; Consalvo, 2007; Walsh & Apperley, 2009) demonstrating differing levels of expertise with a variety of digital games across a range of possible platforms. The difficulty of mastering some of the challenges set by digital games often leads to players exchanging expertise and information in order to master tasks and objectives. Gaming cultures are a key context for this exchange, particularly online gaming communities where players can use, share, and produce digital game paratexts.

Paratexts for literacy education
The term ‘paratexts’ embraces a wide range of products, activities and popular culture texts that reference digital gameplay. Paratexts are systems of media products—‘communication and artefacts’ (Consalvo, 2007: p. 8)—emerging from game cultures, which frame the consumption of digital games (see also: Ashton & Newman, 2010; Jones, 2008; Kline et al., 2003; Newman, 2008). Paratexts are integral to the history and success of the digital games industry (Consalvo, 2007; Kline et al., 2003) as they are used to cultivate gaming cultures through various official and unofficial publications. Widespread access to the internet, player produced guides, FAQs, and other creative products has since become common: GameSpot (www.gamespot.com) has over 40,000 digital game FAQs, guides, and walkthroughs; over 250,000 cheat codes; and over 100,000 reviews contributed by the community of game players. When children and young people read, research, consume and design paratexts, they are engaged in relevant literacy practices, making these activities a fluid example of situated learning (Gee, 2003; Stevens et al., 2008). Digital game paratexts ‘shape players’ expectations of what it means to play a game properly or improperly’ (Consalvo, 2007: p. 183).

We argue that paratexts are equally important for understanding gaming literacies. Acquiring gaming literacy does not just involve learning how to play digital games, but also the navigation, comparison, and reading of the “official” and “unofficial” paratexts and contextualizing the information contained in light of the credibility of the particular sources. Alvermann (2001) provides a compelling example of a pupil’s eager consumption of paratexts with her discussion of Grady, a ninth grader who disliked reading, but spent his Thanksgiving vacation poring over a Pokémon training manual in order “to get ahead” in his gaming skills. The production and design of digital paratexts also supports the development of technologically complex skills and literacy practices. This includes the design and redesign of digital games and the use—and modification—of software, and leads to basic familiarity with tasks such as copying and saving data files, connecting to networks, and burning DVDs or CD-ROMs. This demonstrates how gaming literacy facilitates and relies on technical literacies through players’ engagements with digital game paratexts.

Paratexts are often descriptions, guidelines, instructions, and strategies for digital games. However, they should not be regarded as merely practical, but also as imaginative and creative outputs that include writing, digital artwork, visual and audio design, and new game designs (see: Consalvo, 2003; Lowood, 2006; Newman, 2008; Schott & Burn, 2007). This demonstrates how paratextual production is grounded in complimentary proficiencies that draw on children and young people’s print-based and multimodal literacy practices that are important to literacy pedagogy. While the pedagogical value of reading, writing, and designing paratexts is clear, we argue that further work is necessary to re-situate these activities and practices in the classroom.

Context for introducing paratexts in the literacy classroom
Through a case study approach, we worked alongside two urban secondary English teachers who believed incorporating digital games into the English curriculum would engage pupils in relevant reading, writing, speaking, listening and multimodal design activities. The project utilized a practitioner action research (PAR) method. During the action research cycles which ran from mid 2007 to mid
2009 it became evident that digital game paratexts were familiar and significant to pupils. Through discussions with the teachers, we agreed the reading, writing, and designing of digital game paratexts would offer a tangible means by which to genuinely capitalize on pupils' out-of-school literacy practices, to intentionally valorize their gaming literacies and provide a platform to introduce digital games into the curriculum.

The situating context for this project was a visit to Game On! (see King, 2002) at the Australia Centre for the Moving Image (ACMI) in Melbourne, Victoria. The exhibit chronicles the medium’s development from pre-commercial experiments to a multibillion dollar global industry. We chose Game On! as a catalyst to spark the pupils’ interest, and to support the teachers’ initial professional development by extending their general knowledge of digital games. Pupils also visited the ACMI Gameslab, where together with their teachers, we observed them play The Elder Scrolls IV: Oblivion (Bethesda Softworks, 2006), and a section of the best independent games from the 2007 Independent Games Festival, including Aquaria (Bit Bot, 2007), Everyday Shooter (Queasy Games, 2008), and Samorost 2 (Dvorsky, 2003). Observing students playing digital games with the teachers was paramount in demonstrating the complexity of gameplay and the literacy practices involved. As a result the teachers were able to see firsthand how digital games established a context for situated, collaborative learning. This was the first step in designing specific class-based projects that incorporated teachers’ emerging knowledge about digital games and available paratextual resources that satisfied their classroom requirements to meet state benchmark standards in literacy.

In the first school, we worked with Paul, who taught English to a small cohort of ‘at risk’ year seven pupils who struggled with traditional print-based literacies. Paul planned a digital games project where he adapted Freebody & Luke’s (1990) four resources model for literacy learning. This required pupils to take up the four roles of the reader: code breaker; text user; text participant; and text analyst in their research. As code breakers, pupils explored how they played the digital game and its rules. In the role as text users, pupils were making meaning by comparing different games and gameplay across different platforms. As text participants, pupils interrogated the digital game’s purpose, narrative, genre, and their own role(s) in the game. Finally, as text analysts, they explored why certain games were enjoyed over others and how digital games and the gameplay experience could be improved. Pupils researched digital games by considering the platform they played on (Nintendo DS, PC, Sony PlayStation 2, Wii, etc.), and then by playing and researching games across platforms, evaluating the usefulness of digital game paratexts including walkthroughs, reviews and FAQs.

The project’s final assessment was a presentation that included a PowerPoint slideshow. Paul and his pupils generated a list of options for the presentation, including: completing a character analysis by designing character using The Sims (Maxis, 2000); filming or writing a walkthrough; arguing for a favourite game/character/platform; describing a scene from a game; recounting a section of a game’s narrative; or teaching (and recording) another pupil through a level. Paul valorized pupils’ gaming literacy in terms of school-based literacy practices, by designing the assessment in a manner that resonated with their existing paratext use and production by requiring pupils to integrate writing, reading, speaking, listening, and multimodal design activities. The slideshows demonstrated pupils’ sophisticated gaming metalanguage through their evaluation of different actions, designs, situations, and systems. They also analyzed the technical details of the game, including the software interface and the inputting of information through the hardware. This assessment gave them the opportunity to present research in digital, print and speaking modes that incorporated writing, multimodal design, public speaking, listening to and responding to peers’ feedback. Importantly, Paul carefully considered how this assessment task would provide students with opportunities to satisfy and even exceed year 7 English benchmarks of the Victorian Essential Learning Standards (VELS).

Paul was taken aback by the intense passion for digital games, even among pupils who had given no previous indication of interest in the topic. One pupil, James—who rarely produced any writing—spent an extended period of time researching Dragon Ball Z Supersonic Warriors 2 (Banpresto, 2004). To prepare his slideshow he used downloaded screen shots from gaming sites, custom animations, detailed descriptions of cheat codes and macros, and strategic information on how to play the game. His PowerPoint is a digital game paratext that demonstrates a considerable amount of reading and writing, the sophisticated deployment of research skills, and multimodal design proficiency. This games-based assessment task provided James with the opportunity to draw on his existing out-of school literacy practices, gaming literacies and experiences of digital gameplay to achieve success with traditional school-based literacies.
In the second case study, Maureen—who, unlike Paul, was working with a standard cross-section of students—redesigned the literacy curriculum allowing a group of year 7 boys to design, play, and research digital games. The unit was organised into two distinct sections where pupils first engaged with digital games by visiting the Game On! exhibition. Visiting the exhibition allowed Maureen to valorize gaming literacy by highlighting to her pupils the cultural significance of digital games, particularly because the exhibit was evidence of a strong interest in digital games from an ‘official’ adult perspective. Then students joined a virtual learning environment focused on their individual gaming practices and research. The ‘Game-O-Rama’ wiki offered pupils’ a virtual space that valorized gaming literacy by drawing on the proficiencies that they had developed as users and producers of paratexts through engaging, exploring, and extending print and multimodal literacies. Pupils authored wiki pages on elements of game design character development, colour, genre, iconography, movement, plot, point of view, and sound. Maureen taught pupils mini-lessons on authoring reviews of digital games by providing model texts she sourced from GameSpot. Then they wrote reviews, including key information about individual games, and then posted them on the wiki for peer-review. On interview, pupils reported they enjoyed authoring and designing the game reviews and participating in the wiki. Figure 1. (below) is a screen-shot from a pupil’s review of the fan-made game Naruto-Arena (www.naruto-arena.com). The pupil’s review is a digital game paratext with a detailed, persuasive discussion of Naruto-Arena that drew on his out-of-school knowledge and metalanguage of digital and card games, media (anime), and fan cultures. This assessment task provided the context for the pupils’ to demonstrate and extend their proficiencies in traditional literacies and multimodal design through the presentation and combination of text, images, sound and embedded video.
Through discussions with Paul and Maureen, in-class observations, and interviews with pupils, we gained valuable insights into the demands of introducing digital games and paratexts into the school curriculum. We realised practitioners face considerable challenges when including digital games in classrooms and other settings: accessibility, bias against digital games, inadequate technical and administrative support, and perceptions about appropriate content. However, we believe that using paratexts in the classroom is a viable alternative to using digital games themselves provides practitioners with a way of leveraging children and young peoples’ interest in digital games to support school-based print and multimodal literacy practices whilst also avoiding the possible costs associated with the technical infrastructure and support necessary to use digital games in the classroom. Technology issues aside, many educators remain biased against digital games, even to the extreme of arguing that they inhibit learning. In the face of such attitudes, paratexts present practitioners with more palatable way of incorporating and capitalizing on digital games in the classroom and curriculum. Using paratexts, they can successfully design curriculum that includes the learning and literacy activities associated with digital games and game cultures, and valorize and extend pupils’ out-of-school experiences in ways that allow them to experience success in traditional school-based literacy practices.
Conclusion
A great deal of scholarly work indicates that digital games have significant educational value, particularly in the area of literacy. Furthermore, they have an important role to play in classroom activities. The two case studies show how teachers have successfully capitalized on gaming literacy through developing curricula focusing on digital game paratexts. The available activities in both case studies included the reading, writing, design and use of paratexts. These case studies demonstrate how by valorizing pupils' out-of-school literacy practices teachers were able to produce curriculum that developed pupils' print-based and multimodal literacies and met key assessment criteria.

The use of digital game paratexts is a practical starting point for introducing digital games into the curriculum for two reasons. First, because paratexts require less experiential and technical knowledge of digital games to teach they are easier for practitioners unfamiliar or distanced from the cultures of digital gaming to integrate in their teaching and learning activities. Second, because children and young people are already familiar with paratexts—as users, not necessarily as producers—from their leisure practices. Our goal is to enable and encourage teachers and practitioners to valorize children and young people’s gaming literacies by developing curricula that addresses the relevance of digital games to children and young people’s lives.

Endnotes

References


game play to the rest of kids’ lives. In K. Salen (Ed.). The ecology of games: Connecting
46(7), 32-39.
Climates: Education for sustainable futures. Proceedings of the 2008 AARE. Coldstream,
Victoria: AARE.
Zimmerman, E. (2009). Gaming literacy: Game design as a model for literacy in the Twenty-First
New York: Routledge.